



TURNING THE WEST END INTO THE SHENANDOAH SUBDIVISION - PART 3 MODELING THE B&O CLASS M-12 IN HO

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Editor – Bruce D. Griffin at bruce_griffin@earthlink.net

Associate Editor – Greg LaRocca at microbando@yahoo.com

Associate Editor – Benjamin Hom at b.hom@att.net

Did You See It? Editor – Ross Pollock at info@borhs.org

Model Products News Editor – Clark Cone at cconess@carolina.rr.com

Modeling Committee Chair – Bill Barringer at barbllsn@aol.com

Index Editor - Jim Ford at jimford40@sbcglobal.net

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Cover Photos – Top, Action on the Shenandoah Subdivision – Fran Giacomia photo. Bottom, HO Scale M-12 Boxcar – John Okuley photo.

AN INVITATION TO JOIN THE B&O RAILROAD HISTORICAL SOCIETY

The Baltimore and Ohio Railroad Historical Society is an independent non-profit educational corporation. The Society's purpose is to foster interest, research, preservation, and the distribution of information concerning the B&O. Its membership is spread throughout the United States and numerous foreign countries, and its scope includes all facets of the B&O's history. Currently the Society has over 1600 registered members.

Members regularly receive a variety of publications offering news, comments, technical information, and in-depth coverage of the B&O and its related companies. Since 1979, the Society has published a quarterly magazine, *The Sentinel*, dedicated to the publication of articles and news items of historical significance. Other Society publications include monographs, calendars, equipment rosters, and reprints of original B&O source material. Their

purpose is to make otherwise unobtainable data available to the membership at reasonable cost.

Membership in the Society is a vote of support and makes all of the Society's work possible. It provides those interested in the B&O with a legitimate, respected voice in the railroad and historical communities. By working together, B&O fans are able to accomplish much more than by individual efforts. No matter how diverse your interests or how arcane your specialty, others share your fascination with America's most historic railroad. We invite your participation. Several classes of annual memberships are available, Regular memberships are only \$35.00. If you would like to join, visit the website, <http://borhs.org/Membership/membership.html> to fill out a membership application, print a copy and mail it to:

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An MTH O scale wood-sided passenger car done over as one of 50 borrowed B&O wooden coaches sent to Staten Island in the 1920's. Cars had steam heat and were wired for steam locomotive provided electric power for the lights. All were refitted for high level platform service, relettered "Staten Island" and numbered in the 200 series. SIRT 219 was one of three former Coal & Coke Railway coaches among them. The MTH model was the correct length and has the right number of side windows. Although the C&C cars had closely spaced paired windows, the single window MTH car is a reasonable stand-in. After SIRT electrification was completed in 1925, the borrowed coaches were returned to the B&O. Most became M of W camp cars. Model and Photo by Ed Bommer.

FROM THE EDITOR

The critical nature of modeling, even a friendly road like the B&O (friendly referring to the lack of super critical modelers), always seems to surprise me. Working on *The B&O Modeler* for several years (it will be five years next July) has exposed me to more and more people and each has an opinion, all of which I try to respect. But the very nature of modeling always leads to assumptions and compromises. For example, no modeler that of which I am aware has found a weigh (bad pun) to scale gravity or molecular size, so we compromise with materials, weights, and the way our model trains operate. My understanding of the laws of physics leads me to believe that it would be hard to make a scale (say HO scale) replica of diesel engine actually operate. I am referring to a scale prime mover, not the exacting scale models people run around their layouts with electric prime movers. I do not think you could squeeze enough full size diesel fuel molecules through a scale fuel line in sufficient quantity to get

an explosion in your scale piston. If I am wrong about the ability to fully scale a model to include performance, I would be very happy to learn about it and devote an entire issue to covering it! If I am correct and we cannot yet fully scale model a railroad, then I have to assume we all make compromises and usually some assumptions. I consider this first compromise the same as most, a slippery slope for opinions or arguments. Since we all make at least one initial compromise, the rest are just degrees of compromise. From there we start to make some assumptions and acceptances that allow us to enjoy the many ways we like to model our favorite railroad. Now since we are all compromising, it seems difficult for one modeler to defend their particular compromises against another person's. Even the best couplers in N scale are a compromise in size and operation, especially compared to O scale. Looking in the other direction, N scale train lengths can be much more prototypical. Which is the better

compromise? I cannot see a conclusive winner in that argument, ever, so why do we make it?

While sorting through articles offered to *The B&O Modeler*, I always look for articles and photographs that portray one person's perception of an "accurate" model of the B&O. I try to be very liberal in my decision-making, hoping to please a large audience which has a large acceptance for a variety of levels of compromise. Some in the audience cannot understand why someone would choose one coupler brand over another. Some cannot understand why someone would build a very detailed model to run on a plywood track bed with no scenery. I would reply to both critics, as well as many others, that you make compromises, so be ready to accept your fellow B&O modeler's compromises with grace and encouragement.

If you have submitted information for an article, but have yet seen it in print, it could be because it does not have enough of the elements I feel necessary for a

good article and it is sitting on a disk waiting for me to get back to you for more information. The basics of a ready to go article include photographs of the model, hopefully some depicting the more difficult building sequences, text describing the modeling effort, and prototype photographs and information. Of course not everyone can gather all of this information, though most of it helps in constructing a model, so the editors of the magazine are willing to help. This is something I have done a great job of in the past, but I too can learn and will have more volunteers ready to help. Speaking of volunteers, we can still use more to spread the load and allow those working on *The B&O Modeler* more time to pursue their first passion, modeling the B&O, not writing or editing articles about it. Thank you to all of you who have offered your work for the magazine; while it comes at times with criticism, it also comes with the satisfaction that you helped others enjoy their modeling more.

MODEL PRODUCT NEWS

CLARK CONE

S Scale

M-53/M-53a Boxcar, Smoky Mountain Model Works. <http://www.smokymountainmodelworks.com>

Jim King has just released an S scale B&O wagontop box car kit. It includes both the Creco and Youngstown doors and new decal artwork. These kits have been sold out at the manufacturer, but may be available through a hobby shop.

I-5c/d Caboose, Smoky Mountain Model Works. <http://www.smokymountainmodelworks.com>

A resin kit has been announced with a target retail price of \$125 including couplers and decals using new artwork created from B&OHS archives. Body, underframe and details will be cast resin (1-pc body, separate underframe and details sheet), etched brass window mullions and ladders, etc. Ed Sauers is gathering reservations for this kit, please contact Ed at edsauers@gmail.com.

HO Scale

M-53 Decal Sheet, John Frantz Decals, York, PA.

These new decals will letter five M-53 or M-53a boxcars. They are accurate for all schemes from 1938 to end of revenue service. Currently, these are available exclusively through the B&O RR Historical Society. Retail price is \$12.00

MODEL PRODUCT REVIEWS

EDITOR NEEDED

HO Scale

Mountaineer Precision Products Kit No. 201, B&O “12 ft. x 14 ft. Office Building” (*Standard Plans Book Page 46*).

By John Teichmoeller *Model photography by the author.*



Additions to the kit

For under \$12, I have no complaint, I did add the following items not provided for in this nice but “very basic” kit:

1. Foundation from 1/8” thick Masonite,
2. Base boards on all 4 sides, cut from the leftover .020” plywood sheet that had the window sash and other trim pieces, width to match others,
3. Window sills from scale 2x6 Northeastern scale lumber,
4. Rafter tails on 24” centers from Northeastern scale 2x6 lumber, trimmed with Xacto knife and shaped by eye with sandpaper. NWSL Chopper was worthless,
5. Smokejack (borrowed from an American Model Builders barge kit. John Hitzeman owes me another one),
6. Front stoop, stringers substantially thinned with a file, sliced from a strip of Plastruct stairway No.90442,
7. Window glazing from .005” acetate, rectangles .415” high x .350” wide (my vernier calipers were the easiest way to size these and that’s what it came out to). Affixed with Elmer’s Squeeze-N-Caulk, dries clear, comes in an Elmer’s style squeeze bottle and won’t dry out,
8. Pasted leftover strips of roofing paper along inside vertical window frames as “light” shows through some of them.

9. The door knob is a little pin filed to shape.

Finish:

Body: Floquil depot buff. Yes, I know other folks use other concoctions, but this looks OK to me. Some of the other concoctions result in a more faded color; however, this structure is going to be located in a dirty environment, so I feel the fading will be offset by the ground in dirt and soot.

Trim: Floquil engine black and grimy black, applied more as a heavy wash than a thick paint. In my 1967 era, the trim could have been brown.

Roof: Floquil rail brown (note, if you're careful, you can do the whole roof with only one of the two sheets of roofing paper provided.), Weathered with a little powdered chalk

Future:

Will add a "photographic" model of a bulletin board to the side of the building.

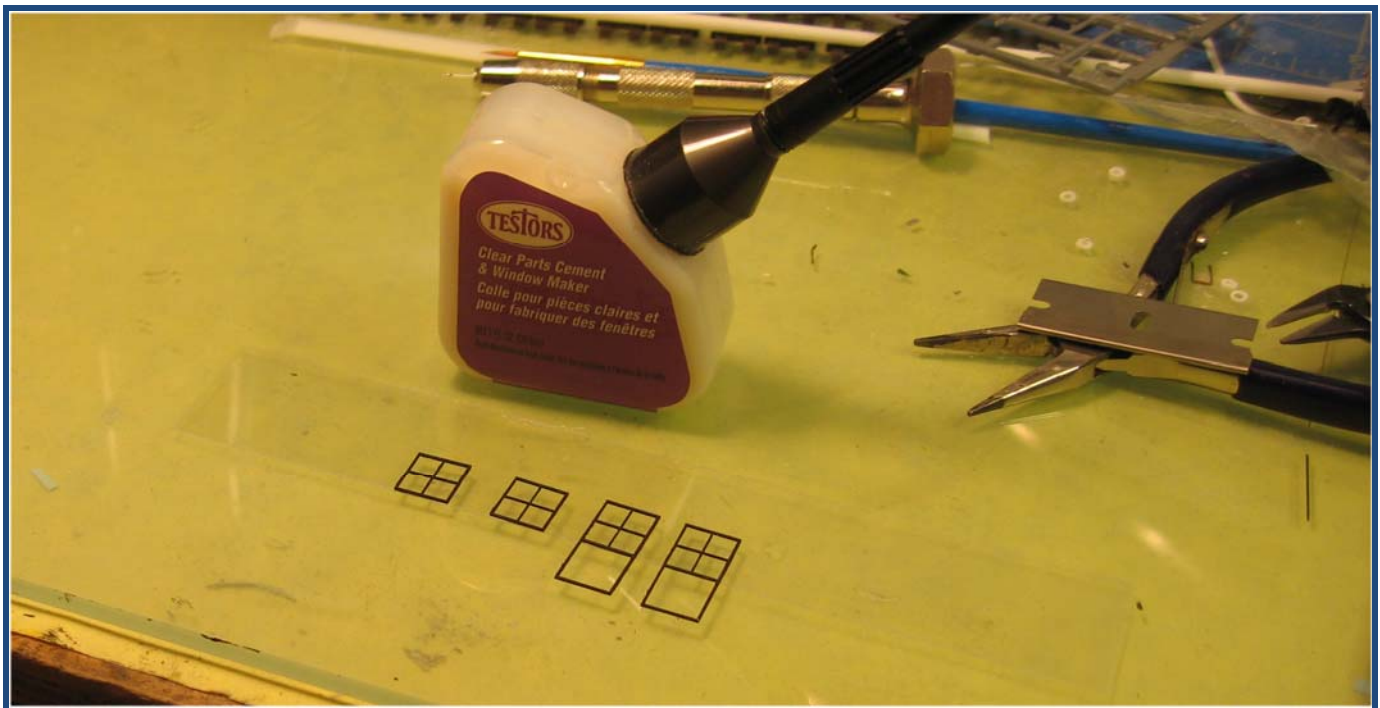
Will add some junk hanging from hooks and brackets—lanterns, etc.

May add rain gutters, a screen door, rain deflector over front door, and exterior light.

I might install interior lighting and details in the future so I constructed roof to be removable—no adjustments to kit required for this.

Questions/Comments:

- Did the B&O actually ever have any buildings exactly like this? Photos?
- The great photo by Ed Kirstatter at Center St. Junction, Youngstown, in 1966 was my inspiration and is similar but not identical by any means and, note, this one has NO visible foundation! This place must have been a real treat to work around in the dusty heat of summer and messy slush of winter.
- I spent an inordinate amount of time on this tiny structure, partially because my modeling skills are rusty after about 15 years of inactivity, partially because this is a VERY basic kit that seemed to "need more", and partially because I was trying to decide how far I really wanted to go with it. You can do it a lot faster.



Ed. When building my kit I wanted some of the windows open, so I glued the frames separately to clear styrene, cut them out with a razor blade, and then installed them partially open.

MOUNTAINEER PRECISION PRODUCTS B&O PASSENGER SHELTER

BY: BRUCE ELLIOTT

PHOTOS BY AUTHORS UNLESS OTHERWISE SPECIFIED.



This kit was introduced a few years ago as one of several prototype structures located at Winton Place, OH. In fact, this is a standard structure that was found at rural passenger stations across the system. My first encounter with a drawing of this structure came from the B&O Standard Plans for MOW and Construction, December 1907 (a reprint is available from the B&O Railroad Historical Society Company Store, Stock number 72007). On my layout, I have a model of the Kensington, MD station, which had one of these passenger shelters across the tracks on the westbound side. Today, MARC has a copy of the shelter in approximately the same location as the original.

This kit is a really nice addition to a small station scene and it is well manufactured. However, the instructions are a little vague, as to where or how the panels go together, and there is no drawing that comes with the kit. As a result, this is not a kit for an inexperienced modeler. The instructions do recommend that you paint all parts on the frets before assembly. My recommendation would be to acquire a drawing before assembly, and test fit the back walls

and support pieces until you see how the manufacturer meant it to go together. Without drawings, you may end up frustrated, with parts glued where they shouldn't be. With patience and test fitting, a fine model can be had. I have one other dislike about the kit and that is the roofing material. Having used several different manufacturer's roofing with peel and stick backing I am spoiled. In my opinion, when it comes roofing material, peel and stick is the only way to go. Having said that, this kit comes with fine quality of roofing material, but you have to add the adhesive to the shingles yourself. While not impossible, it adds to the frustration of the kit's assembly. Therefore, I chose self-adhesive shingles from another manufacturer. The kit came with three benches which I consider icing on the cake, as they really add to the character of the completed scene.

In summary, if you have a wooden station, this would be a fine addition for across the tracks to keep your passengers out of the weather while they wait for their train.

MODELING THE B&O CLASS M-12 IN HO

BY JOHN OKULEY

PHOTO BY AUTHOR UNLESS OTHERWISE SPECIFIED.



The Prototype

The first steel underframe house cars on the B&O were the 2000 class M-12 boxcars built by American Car and Foundry at Detroit in 1902. These were 36 foot cars, with a steel center sill and side sills with a fishbelly profile. The M-12 was rated at 50 ton capacity and had a volume of 2,448 cu ft. These cars were similar in size and appearance to the later B&O M-13 boxcar class.

In appearances and general arrangement the M-12 boxcar was very similar to the Pennsylvania Railroad XL boxcar class, which was also 36' long and with the fishbelly style steel underframe. The XL boxcar, according to Al Westerfield, may well be the most commonly built boxcar design of all time, with over 37,000 cars being built between 1902 and 1916 for the PRR and its subsidiaries. Al has said that the M-12 shares the PRR XLA underframe. Similar cars were built for many other roads, including the Reading and the New Haven. Due to the effective control of the B&O by the Pennsylvania in 1902, it is not surprising that a design nearly identical to the XL boxcar was built for the B&O. Westerfield indicates that the original XL design was based on the "house"

portion of the previous boxcar design, the XH, with the application of the steel fishbelly underframe similar to that first used by the Pennsy on the GL coal car in 1899.

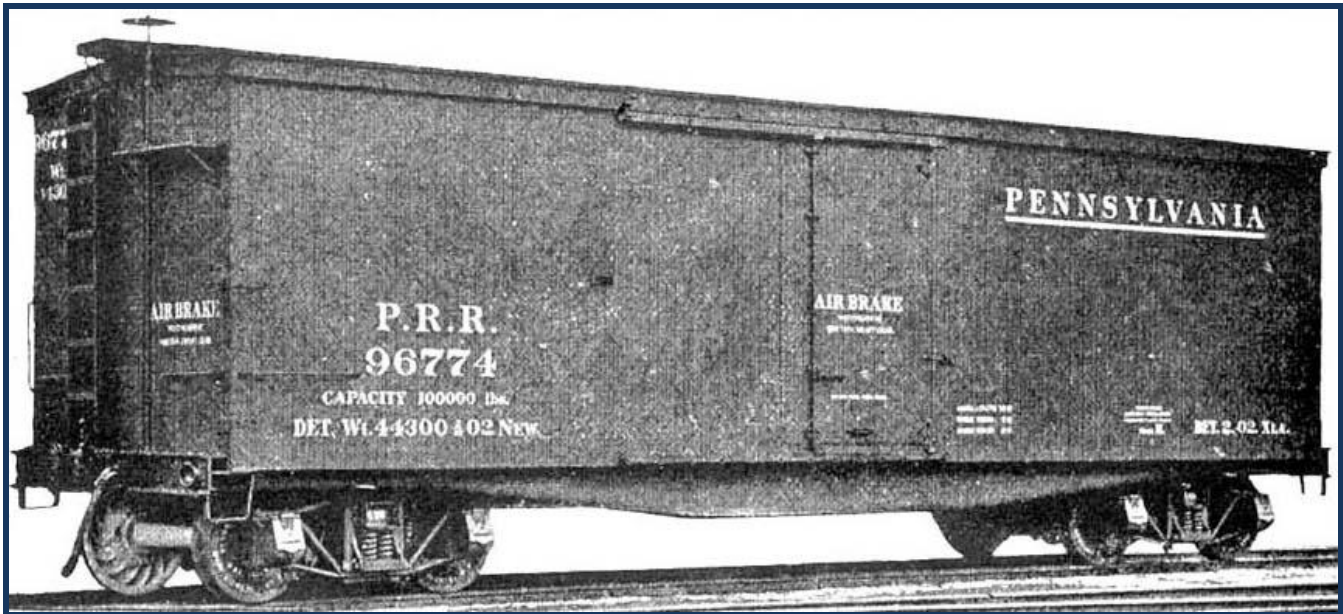
The M-12 boxcar, as built showed its heritage to the all wood boxcar era that it replaced. The ends and sides were double sheathed with wood, and the car rode on arch bar trucks. One of the weak points in wood car construction was the end sill, and the M-12 has a steel channel riding above and supporting the draft gear. There are stirrups and a single handhold only on all four corners of the car, with a vertical handhold on each side of the ends. This arrangement is not exactly as required by the later Safety Appliance Act of 1913. In addition, there are no side ladders, and the end ladders appear to have wood stiles and rungs. As is common on B&O boxcars built before the Great War, the car has wooden doors, opening to the left, on the M-12 nominally 6' wide, 7'6" tall. The PRR XL, for comparison, has left opening plug style Wagner doors, flipped arrangement of end ladder and brake wheel, but a similar metal roof, and channel end sill. Both the

PRR XL and the M-12 may have an additional low mounted brake wheel on the A end of the car, although there is no photographic proof of that wheel on the B&O car.

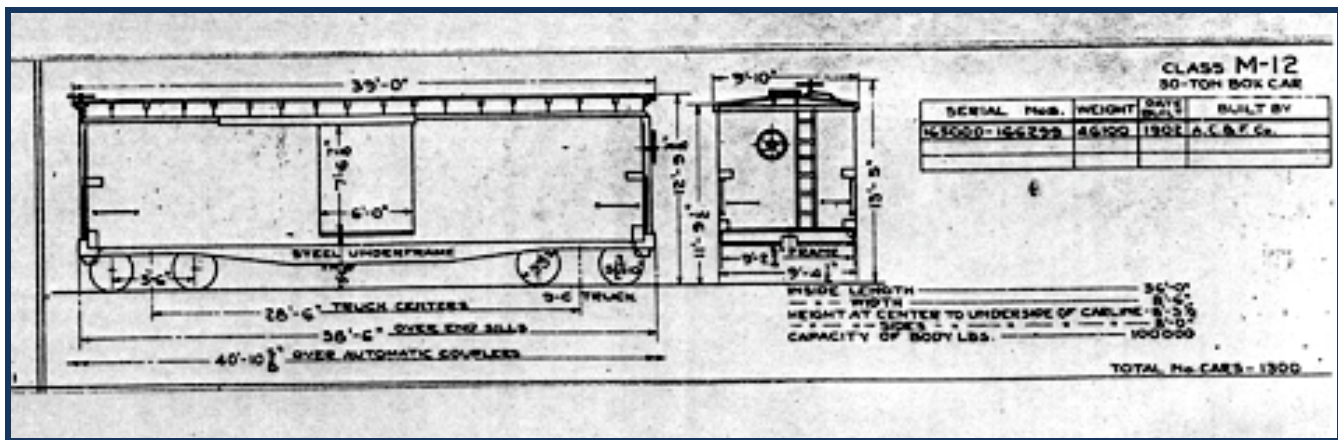
Comparison of the dimensional drawings of from the PRR XL and the B&O M-12 demonstrates that the cars were similar in almost every way, with the dimensions almost all within one or two inches. The M-12 was 8' inside height, and 12'10" to the top of the running boards.



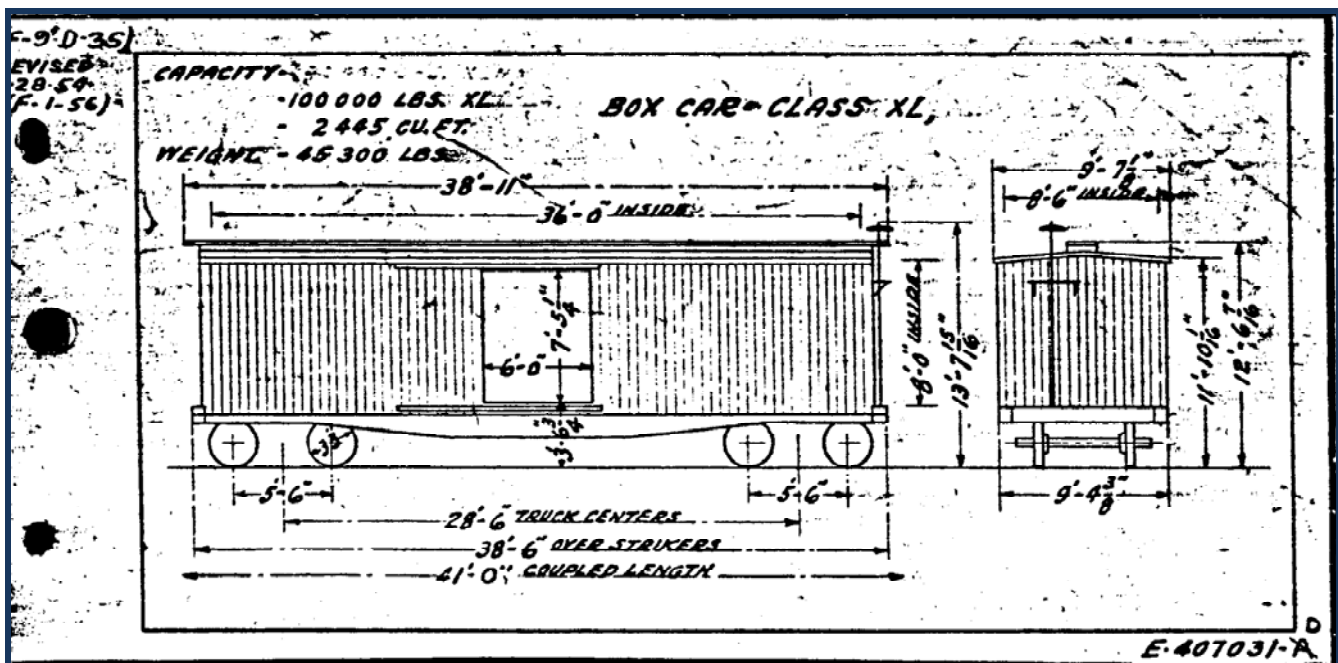
The ACF builder's photo of the M-12. Al Westerfield Collection.



1906 Car Builder's Dictionary.



John Okuley Collection.

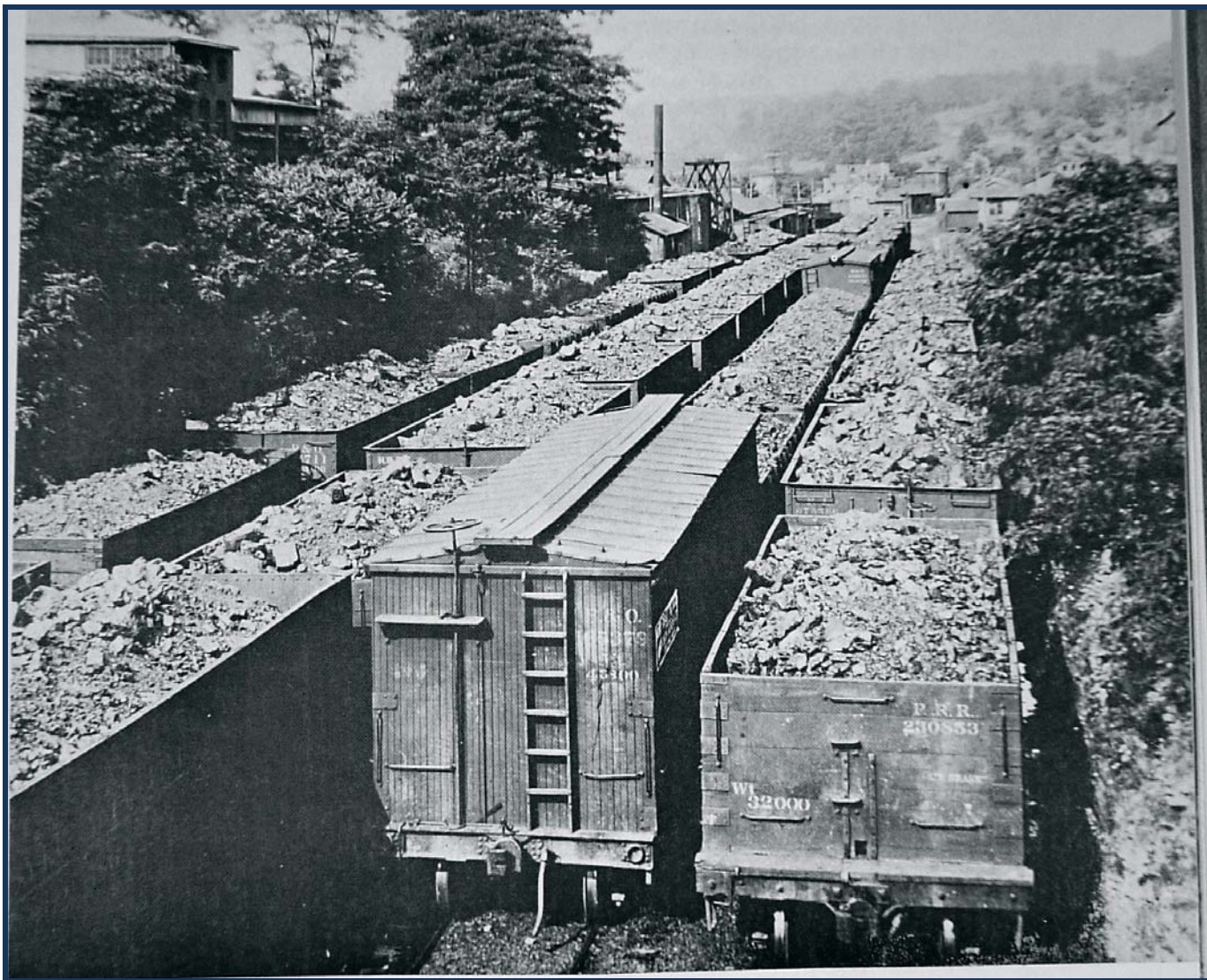


Robert Schoenberg Collection. Available at <http://pr.railfan.net/diagrams/PRRdiagrams.html?diag=xl.gif&sel=box&sz=lg&fr>

Research on the M-12 was inspired by an end view of an M-12 waiting in the Mt. Savage, MD yard of the Cumberland and Pennsylvania Railroad, a road with close ties to the B&O. This view shows the M-12 boxcar in a sea of coal cars, including a PRR GN gondola, and GL steel hoppers. The end view clearly shows that the ladders are located on the right (the “wrong” side), and it also shows that the car was built with an outside metal roof, of unidentified type. The roof appears to be overlapping panels nailed to the subroof, with the brake end having been accidentally peeled back by some encounter with low clearance.

Though the number of cars built was small, the M-12 boxcar had a relatively long service life. The B&O originally constructed 1300 cars of this type and two were left in 1952. They not disappear from the B&O

revenue rosters completely until after 1960. In 1906, the nearly identical M-13 followed the M-12 in construction with many M-13 subclasses taking advantage of the rugged steel underframe, many being built as door and a half auto cars. The M-12 and M-13 classes had almost the same service life, and by the time they were retired from revenue they would have been some of the oldest cars in service on any railroad. They would have seemed very small in comparison to cars built after the Second World War. Possibly because of its similarity to the later M-13, and possibly because of the relatively small numbers of the car, in service photos of the M-12 are rare. By almost any measure the M-12 design, state of the art in 1902, was successful, even if it was overbuilt as compared to later classes such as the B&O’s 40’ M-15.



John Okuley Collection

Modeling the B&O M-12.

It is surprising that no shake the box model of a PRR XL car has been manufactured in plastic. The XL and similar cars were extremely common, and long lived, common in revenue service from 1902 until the end of the 1930's and later in MOW service. XL type cars are available as resin kits. Al Westerfield indicated that he was considering making a resin kit of the B&O M-12 to follow on with his model of the M-13, with most of the changes being in the underframe. After he announced that he was scaling back on the release of new models, I assumed that it would be some time before an M-12 was released, as he had already done similar cars for the PRR, Reading and New Haven. Depending on the modeler's demand for fidelity in details, funds and available material, the M-13, XL or one of the other fishbelly side sill cars could serve as starting fodder for a model of the M-12.

Reading through some of the material on the RPI Railroad Heritage website, I noticed that an old plastic car I already had on hand could serve as the starting for a layout grade B&O M-12. The Model Die Casting/Roundhouse (MDC) 36' billboard boxcar has been available since the 1960's, has the approximate dimensions of the M-12, a fishbelly style underframe, but suffers from badly executed sides.

Resin car kits such as those sold by Westerfield can provide extreme fidelity to the prototype car, but are somewhat expensive, and once built, I always feel anxious that they will take the great plunge into the edge of the layout abyss. Of course, extensive modification of a plastic kit can take as much modeling time. Since I want some B&O M-13 cars in addition to an M-12, I couldn't bring myself to

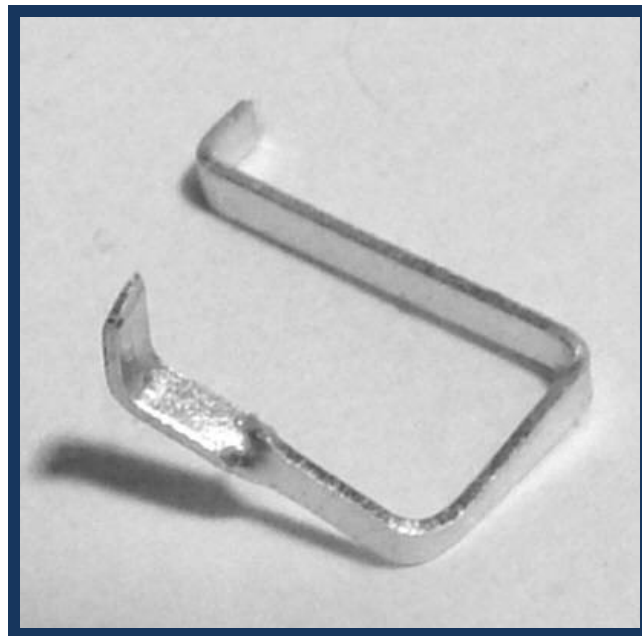
modify a Westerfield M-13 kit. The MDC kit retailed for about \$7.00, and I have bought used versions for as little as \$1.50. These old plastic cars are not really up to current detail standards so I decided rebuilding them was a cheap way to improve my boxcar fleet.

The MDC car has two main features that I want to modify before they are used on my layout. First, the sides needed to be changed to look like double sheathed wood siding. On the MDC model they almost look like they are supposed to be 4x8 sheets of plywood. The sides, luckily are set inside the edge of the fishbelly side sills, where in the M-12 (and every other XL type house car), the sheathing extend beyond the side sills. If the sheathing sat directly onto the top of the side sill, you could expect to direct water and corrosion into the floor and underframe. The MDC side sills follow the profile of the pressed steel side sills of the M-12, but appear to be modeled by MDC as built up from riveted shapes.

The other feature that I wanted to change is the roof. I wanted to duplicate the correct general pattern of an outside metal roof as seen in the 1910 Mt. Savage photo. The MDC model roof appears to be reproducing edge nailing (or rivets?) on the roof and either way they appear to be grossly oversized. In addition, the roof walk, though having a low profile, was molded onto the roof. On the plus side, the ends were about right, the overall dimensions are about right. The MDC car also has a diecast underframe, though not up to Westerfield's standards, providing a fishbelly center sill, and a low center of gravity. Looking at the shell, I decided to leave the side sills alone, and replace the side sheathing and create new doors. The ends would be detailed with wood ladders and I wanted to alter the roof to more accurately portray the roof in the photo.

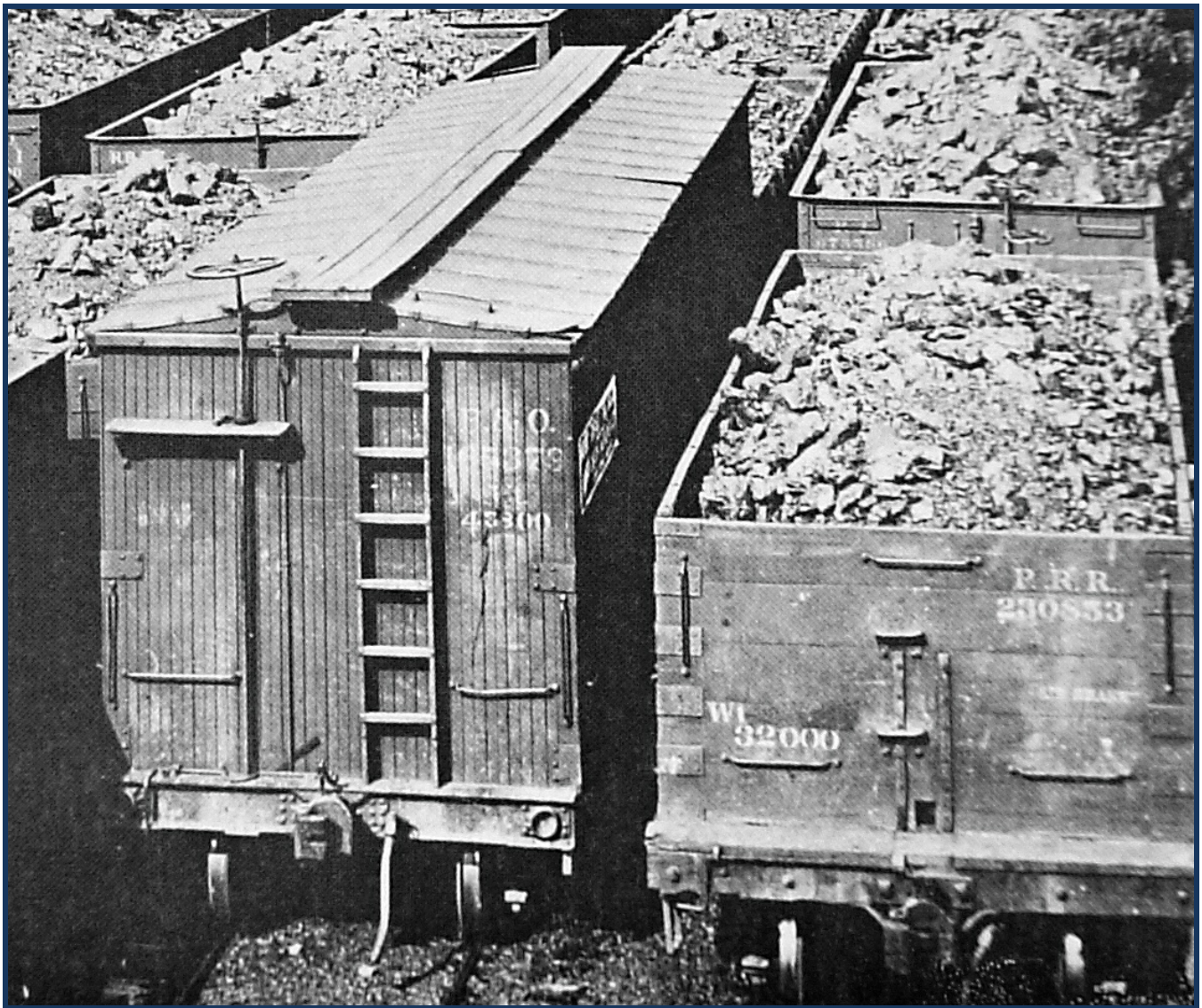
My first step was to take a chisel shaped hobby knife, and carve all of the detail off the sides of the boxcar shell, being careful to avoid damage to the ends, and the side sills, both of which stick out relative to the sides. I sanded the sides smooth, which serves as a base for applying Evergreen siding. Pieces of Evergreen siding were cut to fit just below the roof

fascia, above the side sills and between the ends. Once they were cut and filed to fit, they were glued on with Testors liquid cement, clamped and allowed to dry for several days. A couple places did not bond well, but cement was flowed into the gap, and sides clamped together again. Once the sides were dry, doors were built up from pieces of evergreen siding, and details from the Tichy boxcar door detail set were added. The upper door track is a piece of styrene strip, and the lower guides come from the Tichy set.



Al Westerfield Photograph

Other small details were added to the sides, including the spacer strip that holds the door away from the sides as it is opened, along with a door stop. I detailed the cars as they were built, and before they were updated with safety appliances (probably accurate to about 1920). On the sides, there is a single stirrup and horizontal handhold on the right hand side. The handhold was bent from 0.010" phosphor bronze wire from Tichy. The stirrup was formed as shown on the Westerfield website for the M-13 from flat brass stock, either leftover from a Westerfield kit, or from Detail Associates.



John Okuley Collection

Moving to the ends of the boxcar body, the ladder rungs and corner braces were carved off, sanded lightly, and the sheathing joints were recreated by scribing with the back of a X-Acto No. 2 hobby blade. I could have done a neater job but once painted my mistakes hopefully look like cracked siding. End sills were cut from Evergreen 1/8" channel. A gap for the draft gear was cut and corner braces were made from the pieces of a Grandt Line gondola hardware set. I intended to add poling pockets to the channels, but forgot, until after the car was painted.

The closest replica of the brakewheel I could find is from Precision Scale Co. The shaft for the brakewheel is brass wire and the platform and details are from the Tichy K-brake set. The most tedious part of the detailing was forming the end grab irons from

brass wire and building the end ladders from individual styrene pieces.

Although I'll describe the roof next, I actually came to terms with it before I spent too much time on the ends and other details. I considered carving off the roof walk and sanding the roof smooth, then laying down panels of foil for the roof. After sanding off most of the molded details on the roof it looked much better, especially with essentially all of the nail detail gone.

I sprayed the body with a coat of primer and convinced myself that it was good enough for now, and left the roof walk alone. With projects like this one I can get bogged down in the details and fussing over a small problem. Even though the roof is very visible, I reminded myself that this M-12 model was

not supposed to be a contest piece, but layout grade. In the end, my improvements will make it much better looking than a lot of my other MDC cars. If the feeling ever strikes, I could redo the roof without ruining the sides. If I ever get that ambitious, I will probably either sit down until the feeling goes away, or buy a resin kit to tear into. After the primer dried, I kept sanding on the roof with progressively finer sandpaper until the scratches disappeared and then drilled holes for grab irons above the ladders. Many later cars with outside metal roofs have lateral running boards, but the M-12 did not. I am pretty certain that the metal roof could get pretty slick when wet, even if the paint had sand added.

After a light undercoat of flat gray primer from a spray can, a coat of Scalecoat II Boxcar Red #2 was applied to the entire body. I used a spray can for this top coat also. I often use an airbrush, but if I'm careful, a decent finish can result using a spray can. Scalecoat paint takes a while to dry, but it leaves a semi-gloss finish ready to decal. The gray primer undercoat is also useful if abrasive weathering techniques are used on the top coat, since it provides a base color that resembles weathered wood. Because I wanted more than one for my layout, I built two nearly identical cars at the same time. The as-built lettering is an arrangement I call "Loree Simple Roman," an arrangement in keeping with the PRR

style of 1902. Loree Simple Roman has a spelled out road name, underlined on the upper right side of the car, with the reporting marks on the left, without lines. A slightly different version of roman lettering appeared in roughly the same time frame, which I call "Willard Simple Roman." This style, except for some changes in the dimensional reporting data, stayed the about same until the introduction of the capitol dome herald in 1937. Willard Simple Roman has a spelled out road name, without underlining on the upper right side of the car, the reporting marks and car number on the left, with lines above and below. These shorthand names for the lettering arrangements are entirely unofficial, but using the name of the road's president when they were first used helps me remember. My favorite year to model is 1916 and both of these arrangements were present, with Willard Simple Roman first appearing about 1916.

Westerfield decal set # DECAL 5001 is for M-15 boxcars and decal set# DECAL 10901 is for the M-13 boxcars, both provide boxcar lettering appropriate for 1902 up to about the 1940's. There is no M-12 specific class letter on either of these sets, but an M-12 can be created from numbers on the decal sheet. Both cars were lettered with repacking dates within 24 months of August 1916.

TURNING THE WEST END INTO THE SHENANDOAH SUBDIVISION - PART 3

BY FRAN GIACOMA

PHOTO BY AUTHOR UNLESS OTHERWISE SPECIFIED.



Introduction

Just to catch everyone up on this tale, Part 1 covered why I went from modeling the Cumberland Division's West End to the Shenandoah Sub Division and Part 2 examined the layout construction and the use of Layout Design Elements (LDE's). This episode will delve into more detail about its construction and the actual operation of the layout.

Building the Layout

I used a lot of benchwork, track, scenery, and wiring from the old West End layout to get up and running as soon as possible. Here is a rundown of everything from "sub grade" to "top of rail":

Benchwork - 10"x 12" metal L brackets attached to the wall with drywall screws and 1"x 4" and 2"x 4" lumber for the freestanding benchwork. 1" thick pink or blue foam board was attached to the brackets with drywall screws as they have deep threads. Foam board risers were screwed and glued to the wooden open frame benchwork to provide support for the foam board sub base.

Roadbed - back on the West End layout, I used HO scale Woodland Scenics foam roadbed with their ballast on top. This gave a decent look of a heavy duty, mainline ballast section, but I still was not 100% happy with it. On the Shenandoah SD, I opted to use Woodland Scenics N scale roadbed as it is narrower and thinner, thus providing a thinner ballast section under the tie and allowing the ballast to fall away from the track exposing the ends of the ties. I am still not entirely satisfied with the outcome, but it is a definite improvement over the previous method. Woodland Scenics B1376 Cinders Fine Ballast is used on each side of the roadbed and is placed out about 3" from the end of the ties.

Ballast - I use a mixture of Woodlands Scenics B1394 Gray Medium Ballast with a little B1381 Light Gray Medium Ballast added to give it more a "limestone" look. After ballasting, I give the track a light airbrushing with a mixture of grimy black and rust paint.

Track - I use mostly Atlas Code 83 on the main track and either Shinahora or MicroScale Code 70 on the

sidings, yard tracks, and industry sidetracks. Turnouts are the same rail size as the adjoining track using mostly Walthers and Atlas sizes 4 thru 6, straight and curved. Caboose Industries S202 HO sprung switch stands are used on all turnouts. I spray paint the track

before installation and also spray paint it after the ballast is down to weather it all together.

Electronics – Digitrax Super Chief system powers six throttles that plug into 14 jacks strategically placed around the layout.



Looking east at Winchester Yard.

Operations

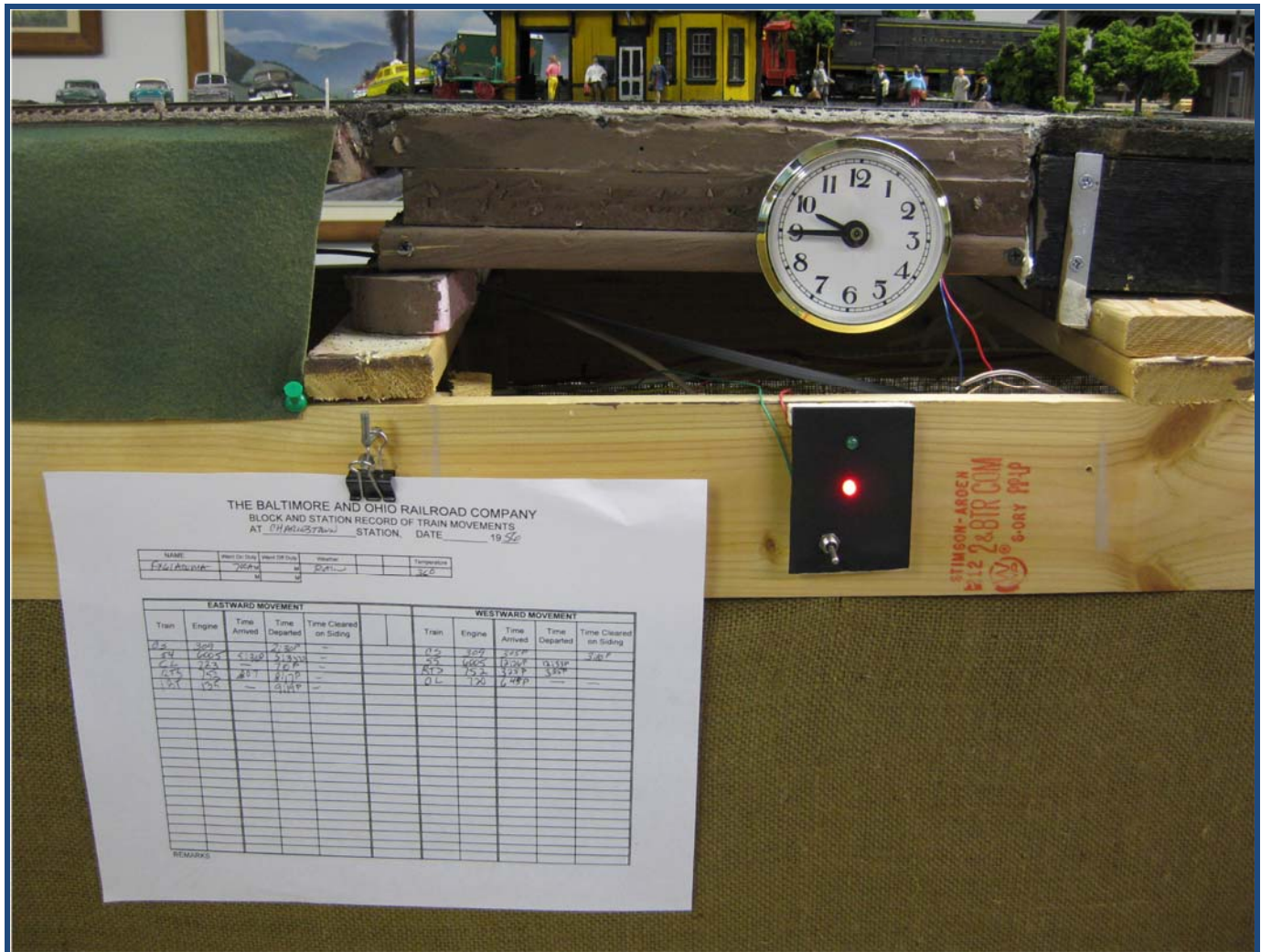
In 1956, the Shenandoah SD was operated under timetable/train order (TTTO) rules. I will not go into detail on the operating rules as you can read them in any B&O Operating Rule Book under rules 200 to 223. Under TTTO, trains are authorized to run according to a timetable or by authority of a train order issued by the dispatcher through an operator located at a train order office. A copy of the timetable (containing two pages printed on one piece of paper) and a straight line diagram of the layout is reprinted at the end of this article. Although passenger service was eliminated in 1949, I used a little “modeler’s license” to have one passenger train just to keep the operation interesting. Besides containing the passenger train schedule (which is loosely based upon the last passenger train run on the sub-division), Page 1 also provides information on the station and train order office locations and hours of operation,

passing siding information, and defines the relationship between trains concerning “superiority”. Page 2 provides Specific Instructions and Equipment Restrictions, all of which were taken from the real timetable or actual conditions on the layout.

Each train order station has a fast clock (operated at a 14:1 ratio), a train order signal, and a train “OS” sheet for the operator to record the train movements. The fast clocks are 3” in diameter with large black numerals on a white background. In addition, two 10” diameter fast clocks are hung from the ceiling for viewing from any location on the layout. The train order signals are not trackside but on the layout fascia or the basement wall. I would like to have working semaphore train order signals next to the track but have not found any commercial ones to suit my needs. The train order signal is composed of a 2”x 3”

plastic panel containing a red and a green LED connected to a SPDT switch. Power is supplied through a resistor and diode connected to the track power wires under the layout. The operator throws the switch to light the red LED to tell the train crew to stop and pick up train orders or the green LED to

tell them there are no train orders to pick up and to proceed. The train “OS” sheet was based upon a late 1950’s version that was used in the various towers across the system. The operator records the time the train arrived and departed the train order station and if the train has cleared up in a siding.



A train order station with fast clock.

Each train description and how they are run is shown on the attached “Train Lineup”. The trains are sequenced to keep the staging yard from getting plugged and to not overload the train order operator. The trains run during an op session are based upon freight schedules from the 1950’s found in books available from the BORRHS Company Store. Besides the usual assortment of freight trains, I’ll run a wreck train to one of the interchanges, a work train with ballast cars or a crane and flatcar loaded with rail, and during the winter months, snowplows and Jordan Spreaders to keep the “imaginary” snow off the track. I use a B&O Switch List form from the late 1950’s filling them in with the cars to be set off and

picked up at each station. Clearance Card A, Form 19 and Form 31 train orders from the same era are also used to move the trains. Prior to the operating session, I’ll prepare a switch list for each train and staple a short description of the train (and its work) to it. These are grouped together in a shallow 12”x 18” box (located next to the layout) that is divided into two sections: New and Used. The train crew, upon being called for a train, takes the appropriate paperwork from the “New” section of the box and when done their run, deposits it (along with their train orders) in the “Used” section of the box. The box also contains wooden skewers used for uncoupling cars and 1” long alligator clips which are

clipped to the rail next to a cut of cars to hold them while switching. It also acts as a “sleeping flagman” when left attached to the rail and the next train smashes into it (this happened a few times on the West End layout). Total setup time for an operating session is about 4 hours.

To start the session, I start the fast clock and call out the first 3-4 trains on the lineup. A 2 person crew will accept the call for a particular train (everyone has their preferences!) and grab the paperwork from the box. They locate their train and await Clearance Form A/train orders/messages before they start rolling. A typical session will have 15 trains run, not including the extras previously described. After the last train is run, we talk about the operating session and any problems that arose, especially mechanical or track related.

The Proof is in the Operating Session

On the afternoon of Super Bowl Sunday, I held my first operating session of the Shenandoah SD which was almost twenty three months to the day from the last West End operating session. Although I had the layout up and running one year after the last West End operating session (meeting my goal), I wanted to take time to formulate a train lineup, do some scenery and work out the kinks of the layout. Seven members of the West End operating crew spent an afternoon running trains on a B&O branch line at a relaxed pace. They picked up the TTTO concept pretty quickly with most of the problems resulting from train order office operator error (namely me!). A few adjustments will be made to the Timetable and the train lineup to make the session flow a little smoother. Overall, I was pleased with my work and feel that I met my goals as outlined in Part 1 of this story. The next operating session is scheduled for a Sunday afternoon in March; look for an announcement on the Yahoo B&O Groups board. Stop by if you are in the area and join in the fun.



Looking east at the W.S. Frey Lime & Stone Company plant at Stephenson, as the Brunswick to Winchester Daily Freight rolls by.

CV Jct. Local Extra 722 West

- Originate at Brunswick
- Work Stephenson
- Set off/pick up at PRR at CV Jct.
- Runaround train at Winchester
- Terminate at Brunswick

Charlestown Local Extra 926 West

- Originate at Brunswick
- Set off/pick up at Charlestown
- Terminate at Brunswick

Charlestown Switcher – 1st Trick Engine 524

- Originate at Charlestown
- Work at Charlestown & Ranson
- Terminate at Charlestown

Charlestown Switcher – 2nd Trick Engine 524

- Originate at Charlestown
- Work at Charlestown & Ranson
- Terminate at Charlestown

Winchester Switcher – 1st Trick Engine 540

- Originate at Winchester
- Work at Winchester
- Terminate at Winchester

Winchester Switcher – 3rd Trick Engine 540

- Originate at Winchester
- Work at Winchester
- Terminate at Winchester

1st Winchester Turn Extra 807 West

- Originate at Brunswick
- Set off at Winchester (Strasburg Jct., Middletown and W&W Jct. cars)
- Terminate at Winchester

1st Brunswick Turn Extra 135 East

- Originate at Winchester
- Pick up at Winchester (Winchester cars)
- Terminate at Brunswick

Strasburg Jct. Local Extra 901 West

- Originate at Winchester
- Work at Middletown
- Set off/pick off at Strasburg Jct.
- Return to Winchester for W&W RR cars
- Set off/pick up at W&W RR at W&W Jct.
- Terminate at Winchester

Millville Digger Extra 720 West

- Originate at Brunswick
- Work Millville and Halltown
- Terminate at Brunswick

Race Track Special Passenger Extra 743 West

- Originate at Brunswick
- Stop at Charlestown
- Run to Winchester and runaround train
- Stop at Charlestown
- Terminate at Brunswick

Train 55 Engine 6005

- Originate at Brunswick
- Terminate at Strasburg Jct.

Train 54 Engine 6005

- Originate at Strasburg Jct.
- Terminate at Brunswick

2nd Winchester Turn Extra 764 West

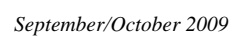
- Originate at Brunswick
- Set off at Winchester (Winchester cars)
- Terminate at Winchester

2nd Brunswick Turn Extra 807 East

- Originate at Winchester
- Pick up at Winchester (Strasburg Jct., Middletown and W&W Jct. cars)
- Terminate at Brunswick

Schedule

1. Charlestown Switcher - 1st Trick
2. Winchester Switcher – 1st Trick
3. Train 55
4. Race Track Special
5. 1st Brunswick Turn
6. 1st Winchester Turn
7. CV Jct. Local
8. Charlestown Local
9. Charlestown Switcher – 2nd Trick
10. Train 54
11. Millville Digger
12. Strasburg Jct. Local
13. 2nd Brunswick Turn
14. 2nd Winchester Turn
15. Winchester Switcher – 3rd Trick



Baltimore and Ohio Railroad Company
Baltimore Division – Shenandoah Sub-Division
Employees Timetable #79 October 28, 1956

WESTWARD.

EASTWARD.

Distance from Harpers Ferry	Train Order Station	Shenandoah Sub-Division. TIME-TABLE No. 79. October 28, 1956.	Passing Sidings. Capacity 45-foot cars including engine and caboose.	FIRST CLASS 55 DAILY Ex. Sunday A.M.	Distance from Strasburg Jct.	Train Order Station	Shenandoah Sub-Division. TIME-TABLE No. 79. October 28, 1956.	Passing Sidings. Capacity 45-foot cars including engine and caboose.	FIRST CLASS 54 DAILY Ex. Sunday P.M.
0.0	DN	HARPERS FERRY.		7:45	50.4		STRASBURG JCT.	6	7:30
4.1	D	4.1 MILLVILLE.	17	8:04	44.2	D	6.4 MIDDLETOWN.		7:43
6.1		2.0 HALLTOWN.		8:14	33.0		11.2 W.&W. JUNCTION.		
9.2		4.2 RANSON.			31.7	D	1.3 WINCHESTER.	10	8:01
10.3	D	1.1 CHARLES TOWN.	10	8:33	30.5		1.2 C.V. JUNCTION.		
10.8		0.5 N&W RWY CROSSING.			26.8		3.7 STEPHENSON.		8:15
		7.2					8.8		
18.0		SUMMIT POINT.			18.0		SUMMIT POINT.		
26.8		8.8 STEPHENSON.		8:46	10.8		7.2 N&W RWY CROSSING.		
30.5		3.7 C.V. JUNCTION.			10.3	D	0.5 CHARLES TOWN.	10	8:32
31.7	D	1.2 WINCHESTER.	10	9:04	9.2		1.1 RANSON.		
33.0		1.3 W.&W. JUNCTION.			6.1		4.2 HALLTOWN.		8:45
44.2	D	11.2 MIDDLETOWN.		9:18	4.1	D	2.0 MILLVILLE.	17	8:57
50.4		6.4 STRASBURG JCT.	6	9:31	0.0	DN	4.1 HARPERS FERRY.		9:15

DN – train order station open day and night

D – train order station open day at 6:00AM and night until 11:59PM

Eastward trains are superior to westward trains, except:

Train 55 is superior to Train 54, Harpers Ferry to Strasburg Junction and extra trains are superior to work extra trains.

Baltimore and Ohio Railroad Company

Baltimore Division – Shenandoah Sub-Division

Employees Timetable #79 October 28, 1956

General Instructions

- Permission from the train order office operator must be obtained before operating a switch to enter a main track.
- A main track switch must be lined normal after the work is done and before reporting clear.
- Clearance points on tracks are indicated by a yellow painted tie.
- Maximum speeds :
 - Main Track:
 - Passenger trains - 40 MPH between Harpers Ferry and Charles Town, 35 MPH between Charles Town and Strasburg Jct.
 - Freight trains - 30 MPH
 - Light engines - 25 MPH
 - Work/Wreck trains - 20 MPH
 - Sidings, sidetracks and yard tracks:
 - All trains - restricted speed
 - Restricted speed: proceed looking out for trains and cars, switches not lined, broken rails and obstructions, not exceeding 10 MPH
- Rules governing movements over sub-division: TTTO
- Yard Limits: Charles Town and Winchester (Rule 93)
- A caboose is required at the leading end of a train when shoving cars, without train order authority, outside of Yard Limits. The shove can be made a maximum distance of one train length beyond the Yard Limit sign
- Maximum train length – 18 cars including the caboose

Special Instructions

Millville – 6 axle engines prohibited from operating on Standard Lime & Stone Company sidetracks

Charles Town:

- grade crossings must not be blocked by standing equipment for more than 5 minutes
- cars longer than 45' in length prohibited from being placed at Whitmore Lumber Co.

Stephenson – cars with a height of 14' and over and all engines are not permitted under loader at

WS Frey Lime & Stone Co.

Winchester:

- engines prohibited from operating over live rails of scale on Scale Track
- engines prohibited from operating on Winchester Milling sidetrack beyond a point 90' west of the point of switch
- hoppers cars only permitted over pit on Team Track



A customer at Charles Town, WV.



The CV Junction Local heading westbound down the branch at Harpers Ferry train order office and station.



Looking west at the W.S. Frey Lime & Stone Company Loader.

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bomodeler-subscribe@yahoogroups.com

To unsubscribe send an email to:
bomodeler-unsubscribe@yahoogroups.com